its execution. In this respect Renou agreed with the words of Mascart.

M. Teisserenc de Bort thanked the President, Mascart, for the interest that he has shown, which would be a great encouragement to himself and his colaborers; he added that he already had a small captive balloon of about 40 cubic meters capacity, intended for preliminary experiments, but the cable has not yet been received; but in the course of last spring he had, by the aid of small models made of gold-beater's skin, made a series of researches on the best form for these aerostats, and hopes that he may, with patience, finally arrive at a practical solution.

LOCAL CLIMATIC CHANGES.

A correspondent in Northfield, Mass., desires our opinion on the question: "Were the winters of fifty or seventy-five years ago much colder, or were the snowfalls deeper than at present? The opinion is widely held that the winters were colder and the snowfalls deeper, but I can find nothing to warrant the belief except that in the first part of the century a much larger percentage of the population lived in the hill towns or in the interior, which are both colder than the valley or the coast towns."

On the general question as to appreciable changes in climate the Editor's opinion is that there has been no such change in any respect whatever so far as meteorology proper is concerned. If we divide our records of the weather recorded in North America since the days of Columbus into two periods, viz, before and after the year 1800, we shall find that every peculiarity, such as remarkable storms, winds, rains, floods, frosts, etc., recorded in the current century can be matched by a corresponding remarkable event before the year 1800. The popular impressions alluded to by our correspondent result almost entirely from the imperfections of our records and especially of our memories. There is a large class of persons whose habits of thought are so crude that when they experience any very remarkable weather they jump to the conclusion that the climate has changed, forgetting that they themselves have had such a limited personal experience that they are not fair judges of the weather over the whole country or of the climate of a century.

Our correspondent seems to suggest that a certain change in the habits of the people, such as the removal from the interior to the coast, or from forests to prairies, or from country to city, or vice versa, will partly account for widespread errors in respect to climate. The suggestion is excellent, but the Editor would be inclined to interpret the phenomenon somewhat differently. The general movement of the population in the past century has been from the Atlantic States westward, and from the country to the city, or quite opposite to the movement suggested by our correspondent. In fact, we find no real agreement in the so-called popular traditions with regard to the weather. We have met with quite as many persons who think the winters are more severe as with those who think the winters are less severe than formerly. Everything seems to depend upon how and where the "oldest inhabitant" lived when he was a boy as compared with his present condition. If he moved from a farm on a windy hilltop in the country down to a cosy house in the village, the climate seemed to him to have improved. If he moved from the milder climates on the coast in his youth to the severer climates in the interior he was, as a boy, struck with the great change, and the impression still remains with him that those winters were severer than now. If he has lived continuously in a large city like New York, where the growth of tall houses, the increased smoke, and diminished sunshine have completely changed the climate, and where these combined with the changes in the mode of living, especially the abolition of the open wood fire, have rendered the human system vastly more sensitive he finds that the inequalities of climate are greater than formerly.

From a hygienic point of view "the climate" includes everything that affects the health and comfort of the body. The meteorological climate that agrees perfectly with one person may be entirely too severe for another. Our remembrance of our physical sensations is not a safe criterion when judging of climate. Our remembrance of an occasional storm or winter is not a safe guide in comparing the past with the present. Our records of deep snows are too fragmentary to give anything more than a general conviction that there has been no material change in the snowfall. Our records of extreme low temperatures are liable to be in error several degrees by the ancient use of very imperfect thermometers and are almost certain to be exaggerated if the thermometers were placed in valleys or lowlands where cold air settles on still, clear nights, so that we must use great caution in interpreting these records; differences of 5, 10, and even 20 degrees have occurred between the minimum temperatures recorded by Weather Bureau and voluntary observers located within a few miles of each, owing to the combination of these two sources of error.

Remarkable rains and snows are usually quite local phenomena; there have been several remarkable cases of this nature in certain portions of New England and the Middle Atlantic States within the past ten years. Similar remarkable cases occurred in other portions of these States fifty years ago and equally remarkable cases occurred in still other portions just before 1800. If there has been any change in the climate of Northfield, Mass., it is because it lay within some one of these regions of extraordinary rain or snow on one occasion and not on another. Such a change of climate at one spot is no criterion by which to judge of changes at other places 100 miles away. The average climate of New England so far as the weather is concerned has not appreciably changed since the days when her oldest forest trees were young saplings, and that carries us back nearly five hundred years.

THE CELEBRATION OF THE SEMICENTENNIAL OF THE ROYAL PRUSSIAN METEOROLOGICAL INSTITUTION.

One of the evidences of the youthfulness of meteorology lies in the fact that so few institutions established to promote this branch of science have come down to us from ancient date. To be sure we have the famous Tower of the Winds, established in classical times in Athens, and the valuable meteorological records kept by Tycho Brahe at Uranianborg in his royal observatory on the island of Huena, in the Kingdom of Denmark. But these observatories have long since become obsolete, and all existing institutions for the promotion of meteorology, whether they are individual observatories or extensive weather bureaus, are of recent date. One of the early official recognitions of meteorology, as a matter of observation and record, was that made by the United States, when on April 29, 1817, Josiah Meigs, as Surveyor-General of the United States, asked for monthly records from the surveyors or registers of the Land Office scattered throughout what was then the western portion of our territory.

In the next year, 1818, Surgeon-General Joseph Lovell ordered the surgeons at military posts to keep regular records of the weather, in accordance with a suggestion made by Hospital-Surgeon Dr. Benjamin Waterhouse, and in continuation of a military order of May 2, 1814, which made it the duty of hospital surgeons to keep a diary of the weather. From that date until now the records of the Surgeon-General's Office have been maintained uninterruptedly and published in several successive meteorological registers.